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KIEFFER PEARS for HOME USE

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KIEFFER PEARS for HOME USE



By Market Quality Research Division, Crops Research Division, and Human Nutrition Research Division, Agricultural Research Service.

THE KIEFFER PEAR is widely grown for home use in the East and South. The tree is vigorous, productive, and more resistant to blight and insect attack than most varieties, which accounts for its inclusion in farm and home orchards. It will continue in large supply until supplanted by the newer, high-quality varieties such as Magness and Moonglow, now available.

The fruit is large and attractive. However, if the Kieffer pear is not harvested and ripened properly, the fruit may be hard, coarse, and tasteless. As a consequence, the fruit is often allowed to go to waste because the necessity for proper harvest, ripening, and storage is not known by many who grow it for home use.

The Kieffer pear never ripens on the tree to the soft texture that is desirable in fresh fruit, although in some localities the skin becomes yellowish. Even when cooked immediately after picking, the fruit generally does not soften to an entirely satisfactory product.

Many of the objectionable characteristics of the fruit can be overcome by proper methods of harvesting, followed by correct methods of storage to promote ripening, and finally by employing suitable methods of preparation for final consumption.

HARVESTING

The fruit may be harvested at any time after it has reached two-thirds to three-fourths full size. The quality after ripening is not greatly affected by the size when picked, although fruit that has reached only two-thirds full size is not so desirable as that picked later. On the other hand, fruit left on the trees until very late in the season is likely to ripen poorly in storage.

In areas south of Washington, D.C., the fruit should not be left on the tree until ready to drop; in northern sections, such as Michigan and New York, the pears should be picked as late

in the season as possible. In some sections considerable loss will occur as a result of dropping if picking is delayed. The best stage appears to be when the green in immature fruits gradually fades and the fruit becomes lighter or slightly yellow.

Kieffer pear trees tend to grow very tall. In practice, they are generally not pruned, so ladders must be used to harvest the fruit. The fruit should be picked carefully to prevent bruising, as bruised areas become brown during ripening. Also, bruised areas, especially if the skin is broken, provide an entrance for fungi, which cause the fruit to decay. The stem will frequently puncture the skin of another pear if the fruit is carelessly dropped into the picking container. Strong well-made baskets $\frac{1}{2}$ to 1 bushel size are satisfactory for gathering and ripening the fruit.

RIPENING

In order to develop the maximum dessert quality in Kieffer pears, the fruit must be ripened after harvest. This can be accomplished by holding it at 60° to 65° F. for 2 to 3 weeks. At this temperature the fruit becomes uniformly soft, its flavor and texture improve, and it becomes acceptable for eating fresh as well as for cooking and preserving. Even pears that have attained only two-thirds to three-fourths normal size become soft and develop a pleasing flavor. Kieffer pears fail to ripen properly at 70° or above.

The homeowner can usually ripen the fruit satisfactorily. The Kieffer pear matures in September and October, when the weather is generally such that it is possible to obtain the proper ripening temperature without artificial refrigeration. In almost any home some room may be found that, with the exercise of judgment as to ventilation, can be converted to a ripening room. The temperature may vary between 55° to 65° F., but the fruit still will ripen satisfactorily. If the temperature of the outside air is too high during the middle of the day, the windows or ventilators should be closed and then opened again at night, when the outside temperature is about 60°. Generally, a clean cellar that can be easily ventilated will be most satisfactory.

Kieffer pears can be stored up to 3 months at 32° and then ripened at 60° to 65°. Although they will soften very little while held at 32°, they will soften more rapidly after such storage than freshly harvested pears.

Humidity of Ripening and Storage Rooms

Air should be allowed to circulate around the fruit at all times during storage. Ventilating the room is generally not so difficult as maintaining the proper humidity. The air should be sufficiently dry to keep the surface of the fruit dry or free from any condensed moisture. If the air is too dry the fruit will lose water and shrink or shrivel. Heavy losses from decay may occur if moisture condenses on the surface of the fruit. A little attention to the storage conditions will enable one to avoid excessive moisture or dryness in the air.

Odors in Storage and Ripening Rooms

The air of the storage and ripening rooms should be free from foreign odors. When stored in the same room with Kieffer pears, certain vegetables give the pears an objectionable flavor. Potatoes especially give an "earthy" flavor to the fruit. It is probable that meats and many other foods would also impart objectionable flavors.

USES

After the fruit has been ripened it has a short storage life and should be used or preserved by processing as soon as possible. Temperatures of 70° F. or above will greatly hasten the breakdown of the fruit, but temperatures of 60° or below will retard the changes. If the ripened fruit must be held for more than a few days it should be stored as near 32° as possible. Even at 32° it cannot be expected to be of best quality for more than 2 or 3 weeks. For use for any extended period it must be preserved in some way.

Kieffer pears may be canned, made into preserves, dried, pickled, or frozen. For any of these methods of preservation, pears that have been properly ripened give best results. The fruit is usually pared and cored before processing. In removing cores, care should be taken to cut out the surrounding tissues that contain objectionable stone cells.

Some general directions for preserving pears by various methods are given below. Detailed instructions can be obtained from State Extension Services or from the following publications of the U.S. Department of Agriculture: Home and Garden Bulletin 8, "Home Canning of Fruits and Vegetables"; Home and Garden Bulletin 92, "Making Pickles and Relishes at Home"; Home and Garden Bulletin 10, "Home Freezing of Fruits and Vegetables."

Canning

One of the most important uses of the Kieffer pear is for canning. When the fruit is properly ripened, canned Kieffer pears are agreeable in texture and pleasing in flavor. For canning, the fruit is usually cut in halves, pared, and cored. The pared fruit turns dark rather rapidly when exposed to the air. To retard the darkening action, it is best to submerge the fruit, as soon as it is pared, in a solution containing 2 tablespoons each of salt and vinegar to 1 gallon of water. The prepared fruit is either heated through in a sugar sirup made with 2, 3, or $4\frac{3}{4}$ cups sugar to 1 quart water, according to sweetness desired, and packed hot, or packed raw and covered with boiling sirup. Process in boiling water bath (212° F.) as follows: *Hot packs*: Pint jars, 20 minutes; quart jars, 25 minutes; No. 2 cans, 25 minutes; No. $2\frac{1}{2}$ cans, 30 minutes. *Raw packs*: Pint jars, 25 minutes; quart jars, 30 minutes; No. 2 cans, 30 minutes; No. $2\frac{1}{2}$ cans, 35 minutes.

Drying

The Kieffer pear may be dried in the same manner as many other fruits. Two methods of drying fruits are used—artificial drying and sun-drying. However, in the sections of the country where the Kieffer is generally grown at present, sun-drying usually is not feasible, since the fruit matures late in the season when the days are relatively short, the temperature low, and showers comparatively frequent. For artificial drying, special equipment is needed.

To produce a satisfactory dried product it is necessary to ripen the pears properly and pare and core them. Drying is accomplished more quickly if the fruit is cut in eighths or in $\frac{1}{4}$ -inch slices or rings. Because pears tend to darken in drying and storage, they require special treatment after they have been prepared for drying. The best known way to hold their color is to sulfur them for 2 or 3 hours in a box outdoors, using 1 level teaspoon sulfur per pound of prepared fruit.

Other pretreatments to preserve color of the prepared fruit are: (1) soak prepared fruit 15 minutes in a solution of $3\frac{1}{2}$ tablespoons potassium metabisulfite or sodium sulfite to 1 gallon water; (2) soak prepared fruit for about 10 minutes in a solution of 4 to 6 tablespoons salt to 1 gallon water; or (3) precook prepared fruit in steam or boiling water until tender but firm.

